

REMARKS

By the present Amendment, claims 1-9 are cancelled and claims 10-16 are added. This leaves claims 10-16 pending in the application, with claim 10 being independent.

Drawing Objections

The originally filed drawing is objected to 37 C.F.R. §1.83(a) for failing to show the second storage tank for the hydraulic oil. The replacement sheet graphically illustrates second storage tank 45 connected to intake opening 46 of pump 14, as disclosed on page 6, first full paragraph, of the originally filed application.

Thus, the drawing now complies with 37 C.F.R. §1.83(a).

Substitute Specification

The specification is revised to avoid the objections raised in the Office Action and to eliminate grammatical and idiomatic errors in the originally presented specification. The number and nature of the changes made in the specification would render it difficult to consider the case and to arrange the papers for printing or copying. Thus, the substitute specification will facilitate processing of the application. The substitute specification includes no “new matter”. Pursuant to M.P.E.P. § 608.01(q), voluntarily filed, substitute specifications under these circumstances should normally be accepted. A marked-up copy of the original specification is appended hereto.

Rejections Under 35 U.S.C. § 112, Second Paragraph

Original claims 1-9 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. By the present Amendment, the originally filed claims are rewritten to avoid the

language alleged to be indefinite in the Office Action. All language of the presently pending claims is now believed to be clear and definite.

Thus, the pending claims are definite and comply with 35 U.S.C. § 112.

Rejections Under 35 U.S.C. §102 and §103

Claim 10 covers a fluid cooling device forming a structural unit comprising a first drive motor 10 having a first drive axis, a fan wheel 12 connected to and driven by the first drive motor and a first fluid pump 14 conveying a first fluid of hydraulic oil. A first plate heat exchanger 22 is in fluid communication with the first pump to convey the first fluid through the first heat exchanger to treat thermally the first fluid in a temperature controlled way. A storage tank 30 forms an integral part of the device and contains a second fluid of a water-glycol mixture, and is positioned vertically forming a housing for the fan wheel. A second heat exchanger 24 is in fluid communication with the storage tank, and is a finned radiator exposed to cooling air from the fan wheel to cool the second fluid. A second pump 32 is a submersible pump and is connected to the storage tank to convey the second fluid from the storage tank through the first and second heat exchangers and back to the storage tank such that the heat is exchanged between the first and second fluids in the first heat exchanger. An electric, second drive motor 34 is connected to the second pump on the storage tank and has a second drive axis. The first and second drive axes extend perpendicularly relative to each other within the device.

By forming the device in this manner, the two separate fluids can be cooled in an efficient manner by a single, compact device.

Claims 1-3, 5, 6 and 9 stand rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 6,354,089 to Lech. Relative to claim 1, the Lech allegedly discloses a structural unit

10 having a drive motor 21 driving a fan wheel 72 and a fluid pump 28 to deliver a first fluid 30 to a working cylinder circuit 26a and to a heat exchanger 80 from which the fluid returns to the working circuit. A second pump 40 allegedly conveys a second fluid 36 from storage tank 58 and delivers it to a second fluid working circuit 34a via first and second heat exchangers, 80, 78 and then back to the storage tank. Relative to claim 2, the Lech patent is cited as having heat exchanger 80 enabling heat exchange between two fluid types. Relative to claim 3, the second heat exchanger 78 is allegedly a finned radiator acquiring cooling air via a fan wheel to cool the second fluid type. Relative to claim 5, the storage tank 58 is allegedly an integral component of the device. Relative to claim 6, second fluid pump 40 is allegedly a submersible pump seated on the storage tank with its electric drive motor. Relative to claim 9, the first fluid working circuit 26a allegedly has a hydraulic assembly 24, and the connectable second fluid working circuit 26a allegedly has one electric drive 22.

Claims 4 and 7 stand rejected under 35 U.S.C. §103 as being unpatentable over Lech patent in view of U.S. Patent No. 4,878,536 to Stenlund. The Stenlund patent is cited for the use of hydraulic oil as a first fluid and a water-glycol mixture as a second fluid. In support of the rejection, it is alleged that it would be obvious to use the Stenlund hydraulic oil and water-glycol mixture in the Lech heat exchanger.

Claim 8 stands rejected under 35 U.S.C. §103 as being unpatentable over the Lech patent. In support of the rejection, it is alleged that it would be obvious to make the two Lech pumps perpendicular to each other since it only involves a routine rearrangement of parts.

Relative to the cited Lech patent, the alternative embodiment of Fig. 3 appears to be applied against the claims of this application. While Fig. 3 illustrates a schematic diagram of a

fluid cooling circuit, it does not disclose or render obvious a particular structural arrangement of these parts but only discloses the fluid connections. Such structural arrangement is also not shown in the vehicle illustration of Fig. 1. Thus, the Lech patent does not disclose a fluid cooling device with the various parts formed as a structural unit, as claimed. Specifically, Lech second reservoir 58 allegedly corresponding to the claimed storage tank does not constitute an integral of the fluid cooling device, as claimed. The Lech second reservoir 58 does not form a housing for the fan wheel that is connected to the storage tank, as claimed. The Lech second pump 40 is not disclosed as being mounted on the storage tank, as claimed. No disclosure of the drive motors for the Lech pumps 28 and 40 is provided so as to have drive axes thereof extending perpendicularly relative to each other within the device, as claimed. The structural features recited in claim 10 are not disclosed or rendered obvious by the Lech patent considered alone or in combination with the other cited patents.

Claims 11-16, being dependent upon claim 10, are also allowable for the above reasons. Moreover, these dependent claims are further distinguishable by the additional limitations recited therein.

Claim 11 is further distinguishable by the second storage tank for the hydraulic oil, within the overall claimed combination.

Claims 12 and 13 are further distinguishable by the claimed hydraulic and fluid circuits, within the overall claimed combination.

Claims 14 and 16 are further distinguishable by the first heat exchanger being mounted on the housing for the fan wheel. No such mounting is disclosed in the Lech patent.

Claim 15 is further distinguishable by the second heat exchanger being coupled to the fan housing, which mounting is not disclosed or rendered obvious by the cited patents.

In view of the foregoing, claims 10-16 are allowable. Prompt and favorable action is solicited.

Respectfully submitted,



Mark S. Bicks
Reg. No. 28,770

Roylance, Abrams, Berdo & Goodman, LLP
1300 19th Street, NW, Suite 600
Washington, DC 20036
(202) 659-9076

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